ABSTRACT OF THE DISCLOSURE

A noise component is removed from an angle signal obtained by performing polar conversion with respect to a position signal. An angle data PI in the range of from 0 to 360° obtained by performing polar conversion with respect to a periodic signal is input to a low pass filter 7. The low pass filter 7 comprises: a VCO 36 for outputting a smoothed angle data PF; a phase comparator 31 for obtaining a phase error PE between the angle data PI and the smoothed angle data PF; a first amplifier 32 for amplifying the phase error PE; a second amplifier 33 for further amplifying the phase error PE amplified by the first amplifier 32; an integrator 34 for integrating the phase error PE amplified by the second amplifier 33 to thereby obtain a velocity error VEL; and an adder 35 for adding the phase error PE amplified by the first amplifier 32 and the velocity error VEL to thereby determine a control voltage VS. The VCO 36 controls the frequency of the smoothed angle data PF so that the phase error is zero based on the control voltage FS, to thereby remove a high frequency component in the input angle data PI.